

**IN THE CLAIMS**

1. (Original) Method for adjusting a relative angle of rotation ( $\Phi$ ) between a camshaft (12) and a crankshaft (5) using an electromechanical phase adjuster (11), comprising the steps:

- calculating a deviation in the angle of rotation ( $\Delta\Phi$ ) between a desired angle of rotation ( $\Phi_{SOLL}$ ) to be set and a determined actual angle of rotation ( $\Phi_{IST}$ ) in a first control loop,
- calculating a desired adjustment speed ( $\Omega_{SOLL}$ ) dependent on the deviation of the angle of rotation ( $\Delta\Phi$ ) using an angle of rotation adjuster (23),
- calculating a deviation of the adjustment speed ( $\Delta\Omega$ ) between a desired adjustment speed ( $\Omega_{SOLL}$ ) and an actual adjustment speed ( $\Omega_{IST}$ ) calculated from at least one measurement parameter in a second control loop cascaded below the first control loop,
- calculating an output parameter dependent on the deviation of the adjustment speed ( $\Delta\Omega$ ) through an adjustment speed adjuster (26) cascaded below the angle of rotation adjuster (23), and
- adjusting the angle of rotation ( $\Phi$ ) as a function of the parameters calculated in the preceding steps using an electromechanical actuator (14).

2. (Currently amended) Method according to Claim 1, ~~characterized in that~~ wherein the actual adjustment speed ( $\Omega_{IST}$ ) is calculated at least from one rotational speed ( $\Omega_S$ ) of the actuator (14) and a superimposed rotational speed ( $\Omega_U$ ) of a drive shaft or a shaft coupled with the drive shaft.

3. (Currently amended) Method according to Claim 2, ~~characterized in that~~ wherein the superimposed rotational speed ( $\Omega_{\dot{U}}$ ) is calculated at least from a rotational speed ( $\Omega_K$ ) of the crankshaft (5).

4. (Currently amended) Method according to Claim 1, ~~to 3, characterized in that~~ wherein the actual adjustment speed ( $\Omega_{IST}$ ) is calculated in a monitoring module (28).

5. (Currently amended) Method according to Claim 1, wherein ~~to 4, characterized in that~~ the output parameter of the adjustment speed adjuster (26) is a desired current ( $I_{SOLL}$ ) of the actuator (14).

6. (Currently amended) Method according to Claim 5, ~~characterized by~~ further comprising the steps:

- calculating a current deviation ( $\Delta I$ ) between the desired current ( $I_{SOLL}$ ) and a measured actual current ( $I_{IST}$ ) of the actuator (14) in a third control loop cascaded below the second control loop, and
- calculating a control parameter dependent on the current deviation ( $\Delta I$ ) using a current adjuster (30) cascaded below the adjustment speed adjuster (26) before the adjustment of the angle of rotation ( $\Phi$ ).

7. (Currently amended) Method according to Claim 5, wherein ~~or 6, characterized in that~~ the desired current ( $I_{SOLL}$ ) is limited to a maximum current value ( $I_{MAX}$ ).

8. (Original) Phase adjuster (11) for adjusting a relative angle of rotation ( $\Phi$ ) between a camshaft (12) and a crankshaft (5), comprising

- a first computing module (22) for calculating a deviation in the angle of rotation ( $\Delta\Phi$ ) between a desired angle of rotation ( $\Phi_{\text{SOLL}}$ ) to be set and a determined actual angle of rotation ( $\Phi_{\text{IST}}$ ) in a first control loop,
- an angle of rotation adjuster (23) for calculating a desired adjustment speed ( $\Omega_{\text{SOLL}}$ ) dependent on the deviation in the angle of rotation ( $\Delta\Phi$ ),
- a second computing module (24) for calculating a deviation in the desired adjustment speed ( $\Delta\Omega$ ) between the desired adjustment speed ( $\Omega_{\text{SOLL}}$ ) and an actual adjustment speed ( $\Omega_{\text{IST}}$ ) calculated from at least one measurement parameter in a second control loop cascaded below the first control loop,
- an adjustment speed adjuster (26) cascaded below the angle of rotation adjuster (23) for calculating an output parameter dependent on the deviation in the adjustment speed ( $\Delta\Omega$ ) for the adjustment speed, and
- an electromechanical actuator (14) for adjusting the angle of rotation ( $\Phi$ ).

9. (Currently amended) Phase adjuster according to Claim 8, further comprising

- a third computing module (29) for calculating a current deviation ( $\Delta I$ ) between a desired current ( $I_{\text{SOLL}}$ ) and a measured actual current ( $I_{\text{IST}}$ ) of the actuator (14) in a third control loop cascaded below the second control loop, and
- a current adjuster (30) cascaded below the adjustment speed adjuster (26) for calculating a control parameter dependent on the current deviation ( $\Delta I$ ) before adjusting the angle of rotation ( $\Phi$ ).

10. (Currently amended) Phase adjuster according to Claim 8, wherein ~~or 9,~~  
~~characterized in that~~ the actuator (14) is a DC motor.